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The article criticizes present-day overemphasis of contrastive analysis procedures in second language instruction. Recommendations are for language teachers to reappraise their classroom objectives and to give paramount importance to mastery of language use rather than mastery of language structure. Pedagogical procedures based on situational cohesion are suggested, and samples of each of these methods are provided in the appendixes. The article concludes with a discussion comparing language learning capabilities in adults and children, covering such points as neurophysiological evidence, time factors, motivational differences, and learning interference. (DS)

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NECESSITY AND SUFFICIENCY IN LANGUAGE LEARNING

by
Leonard Newmark – David A. Reibel

L'article est une critique de quelques théories presque généralement reconnues dans l'enseignement moderne des langues étrangères. Les exercices de structures, maintenant de plus en plus régulièrement appliqués, sont rejetés comme insuffisants, parce qu'ils offrent les matériaux linguistiques isolément, non pas dans des contextes naturels et vivants.

En plus, les auteurs rejettent les matériaux basés sur une analyse contrastive des deux langues, le point de départ et le point d'arrivée. Ceux-là empêcheraient l'apprentissage plutôt que de le favoriser. Les auteurs nient que l'apprentissage d'une deuxième langue ait lieu d'une façon qui diffère en principe de celle dont l'enfant apprend sa langue maternelle. Comme c'est le cas de l'enfant, l'adulte est capable de déduire d'une masse de matériaux linguistiques non organisés les règles grammaticales d'une langue. A la place de matériaux structuralement échelonnés, il faut présenter à l'élève de brefs testes en rapport direct avec la vie et sous formes de dialogues que celui-ci a à apprendre par coeur. Les auteurs font finalement un essai de trouver une nouvelle explication de l'apparition de phénomènes d'interférence dans l'usage de la deuxième langue.

Dieser Artikel setzt sich kritisch mit einigen nahezu allgemein anerkannten Theorien des modernen Fremdsprachenunterrichts auseinander. Die in letzter Zeit immer häufiger verwendeten Strukturmusterübungen werden als unzureichend abgelehnt, da sie die Sprache in künstlich isolierter Form und nicht in lebensnahen Kontexten darbieten.

Weiterhin wird Lehrmaterial zurückgewiesen, das auf einer kontrastiven Analyse von Ausgangs- und Zielsprache beruht. Es soll dem Erlernen einer Fremdsprache eher schaden als nützen. Der Artikel bestreitet, daß das Erlernen einer Zweitsprache durch den Erwachsenen grundsätzlich anders vor sich geht als das Erlernen der Muttersprache durch das Kind. Ebenso wie dem Kind soll es auch dem Erwachsenen möglich sein, aus einer Menge ungeordneten Sprachmaterials die grammatischen Regeln einer Sprache abzuleiten. Anstelle von strukturell graduiertem Übungsmaterial sollen dem Lernenden daher kurze lebensnahe Texte in Dialogform zum Auswendiglernen geboten werden. Es wird ferner der Versuch unternommen, eine neue Erklärung für das Auftreten von Interferenzerscheinungen beim Gebrauch der Zweitsprache zu finden.

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SECTION I

In his zeal to teach language students to produce well-formed sentences, the language teacher is in great danger of underestimating the importance of teaching students to use the language. This is as

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true in the 20th century with its linguistically enlightened methods as it was in the 19th century for methods that men like Gouin, Sweet, and Jespersen were reacting against.[1]) The growing emphasis during the past twenty years on the improvement and expansion of techniques of structural drill represents a corresponding de-emphasis on techniques of teaching language use. In constructing language textbooks and language teaching programs, linguists have–for good professional reasons but bad pedagogical ones–increasingly shifted from a reliance on the simple, direct technique of teaching language use by presenting for imitation instances of the language in use to a reliance on the complex, indirect technique of preparing the learner for language use by means of structural drills based on the linguist's expert contrastive analysis of the native and target languages.[2]) With this shift in emphasis from mastery of language use to mastery of language structure, language pedagogy has gradually lost much of the value contributed to the design of language teaching materials by American linguists during the Second World War.[3])

An examination of the literature on second language teaching written either by linguists or by teachers who claim a linguistic orientation, will reveal a certain typical uniformity in the structure of the theoretical statements that seek to justify their choice of method and selection of material. In some cases, the theoretical discussion may be as short as two or three paragraphs, e.g. in an article in *Language Learning* or *IRAL*, or as long as whole chapters of books. In other cases, of course, the argument will not be explicitly formulated, but will be implied at various critical points in the discussion.

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[1]) François Gouin, *The Art of Teaching and Studying Languages* (London, 1892) (English translation by Howard Swan and Victor Bétis of Gouin's *L'Art d'enseigner et d'étudier les languages*, Paris, 1880); Henry Sweet, *The Practical Study of Languages* (London, 1899); Otto Jespersen, *How to Teach a Foreign Language* (London, 1904).

[2]) A whole conference, for example, was devoted to this topic; see Francis W. Gravit and Albert Valdman, eds., *Structural Drill and the Language Laboratory, IJAL* XXIX, No. 2 (April, 1963), Part III (= IURCAFL Publication 27).

[3]) For the nature of this contribution, see William G. Moulton, "Linguistics and Language Teaching in the United States 1940–1960," in Mohrmann, Sommerfelt and Whatmough, eds., *Trends in European and American Linguistics*, 1930–1960 (Utrecht, 1961), pp. 82–109 (also IRAL I (1963), pp. 21–41); but note especially pp. 86–90 (IRAL, pp. 24–27), where he particularly mentions the role of drill, and pp. 97–98 (IRAL, pp. 32–33) where he quotes C.C. Fries about the contributions of linguists to language teaching programs. See also Mary R. Haas, "The Application of Linguistics to Language Teaching," in A.L. Kroeber, ed., *Anthropology Today* (Chicago, 1953), pp. 807–818.

Whatever the format selected for the presentation of the theoretical background, whether explicit or implicit, its structure can be resolved into two parts.

The underlying principles which form the first part are presented as propositions alleged to form part of linguistic science. These propositions are taken either as fundamental assumptions of linguistic science itself or as findings of linguistic science, although in just what sense they can be taken to be one or the other is not usually spelled out. A statement such as "Language is structured" may in one set of underlying principles figure as an assumption while in another discussion it seems to be claimed as one of the findings of linguistics.[4])

The second part of the theoretical discussion typically consists of statements concerning principles or details of pedagogical practice, alleged to be the logical consequences of the underlying principles. A number of these pedagogical recommendations and the teaching programs they claim to justify seem to us logically and empirically faulty. We can put our objections succinctly:

1) The pedagogical recommendations do not follow logically from the underlying principles upon which they are claimed to be based.
2) The recommended pedagogical procedures themselves can be shown to be neither necessary nor sufficient for the learning of a language.

For example, we may find as an underlying principle a statement like:

1) "Linguistic theory tells us that the ability to speak a language is fundamentally a vast system of habits—of patterns and structures used quite out of awareness."[5])

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[4]) Cf. Albert Valdman, "Breaking the Lockstep," in F.W. Gravit and A. Valdman, *op. cit.*, p. 147:

"Scarcely anyone in this audience would quarrel fundamentally with the basic assumptions [N.B.] of the New Key:

1) Language is primarily speech and writing is its secondary derivative; 2) Foreign language instruction should progress in the sequence listening, speaking, reading, and writing; 3) Language consists of a complex set of habits learned through practice and analogy; 4) The acquisition of foreign language habits is considerably accelerated by structuring the subject matter and ordering it in a series of graduated minimal steps; 5) Practice is more effective if reinforced by rewarding desired terminal responses; 6) Foreign language learning will be substantially increased if positive motivational factors are present in the teaching situation."

[5]) William G. Moulton, "What is Structural Drill?", in F.W. Gravit and A. Valdman, *op. cit.*, p. 5.

And its putative pedagogical consequence:

1a) Structural drill is an important component of any efficient foreign language teaching program. [6])

Or the principle:

2) An important cause of difficulty in second language learning is the set of structural noncongruencies between the learner's native language and the target language. [7])

Followed by the claim that:

2a) Only materials based on a contrastive analysis can most efficiently overcome the interference in the foreign language behavior caused by the native language speech habits. [8])

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[6]) Cf. Nelson Brooks, *Language and Language Learning* (Second Edition) (New York, 1964), p. 146:

"Pattern Practice is a cardinal point in the methodology proposed in this book. Pattern practice (or structure drill, as it is sometimes called), contrary to dialogue, makes no pretense of being communication. It is to communication what playing scales and arpeggios is to music: exercise in structural dexterity undertaken solely for the sake of practice, in order that performance may become habitual and automatic ..."

[7]) Cf. for example the following from Robert L. Politzer and Charles N. Staubach, *Teaching Spanish, A Linguistic Orientation* (Revised Edition) (New York, 1965), p. 22:

"Our appraisal of second language learning must take into account three important facts which inevitably determine much of the learning process:

(1) Language is an elaborate system, full of analogical forms and patterns.

(2) Language is habit, or a complex of habits.

(3) The native language (an established complex of habits) interferes with the acquisition of the habits of the new language."

Subsequent pages (23–32) develop these notions in terms of drill designed to prevent, avoid, or mitigate various kinds of interference (transfer) from native language patterns or imperfectly learned second language patterns.

[8]) *Ibid.*, p. 32: "For the time being, intensive drill at the points of interference remains our most practical tool in overcoming the obstacles created by the native language habits of the mature speaker."

Cf. also the following from Emma Marie Birkmaier, "Extending the Audio-Lingual Approach: Some Psychological Aspects," in Edward W. Najam, ed., *Language Learning: The Individual and the Process*, *IJAL* XXXII, No. 1 (January, 1966), Part II (= IURCAFL Publication 40), p. 130:

"The teacher must constantly be aware of and give special emphasis to the points of interference. *The automatic transfer of the learner's native speech habits must be drilled out of him.* This is really the foreign language teacher's chief job." (Emphasis added.)

The modern ancestor of such formulations is evidently the following oft-quoted summary statement by C. C. Fries, *Teaching and Learning English as a Foreign Language* (Ann Arbor, 1945), p. 9: "The most efficient materials are those that are based upon a scientific description of the language to be learned, carefully compared with a parallel description of the language of the learner."

The logical flaw arises in such instances when the linguist attempts to draw simple and direct conclusions about the manner of acquisition of language from his knowledge of the abstract structure of language, and claims that the success or failure of language teaching programs depends to a large extent on the degree to which the language course writer or language teacher orders his pedagogical material to reflect a theoretically sound description of the native and target languages.[9]) The excessive preoccupation with the contribution of the teacher has then distracted the theorists from considering the role of the learner as anything but a generator of interference; and preoccupation with linguistic structure has distracted them from considering that learning a language means learning to use it.

Our contention is that to be effective language teachers, we need not wait for the development of a theory of language acquisition based on a theory of the structure of language. We believe that the necessary and sufficient conditions for a human being to learn a language are already known: a language will be learned by a normal human being if and only if *particular, whole instances of language use are modeled for him and if his own particular acts using the language are selectively reinforced.*[10]) The critical point here is that *unless* a learner has learned instances of language in use, he has not learned them as language, and that if he has learned enough such instances, he will not need to have analysis and general-

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[9]) Cf. Fries, *op. cit.*, p. 3.

[10]) Cf. the following from Albert Bandura and Richard H. Walters, *Social Learning and Personality Development* (New York, 1963), p. 106:

"Relevant research demonstrates that when a model is provided, patterns of behavior are typically acquired in large segments or in their entirety rather than through a slow, gradual process based on differential reinforcement. Following demonstrations by a model, or (though to a lesser extent) following verbal descriptions of desired behavior, the learner gradually reproduces more or less the entire response pattern, even though he may perform no overt response, and consequently receive no reinforcement, throughout the demonstration period. Under such circumstances, the acquisition process is quite clearly not as piecemeal as is customarily depicted in modern behavior systems."

Note their finding that the acquisition of behavior need not be accompanied by any overt response by the subject whatsoever, something which they demonstrate in a large number of varied learning situations. "While immediate or inferred response consequences to the model have an important influence on the observer's [i.e. learner's] *performance* of imitative responses, the *acquisition* of these responses appears to result primarily from contiguous sensory stimulation [i.e. observation]." (p. 107) (Authors' emphasis.) All this strikes hard at the psychological base of the linguist who adopts an analytic, stimulus-response model for language teaching, with its consequent emphasis on the accumulation of a repertory of language behavior bit by bit via structural drill.

ization about those wholes made *for* him. If our contention is correct, there is a heavy—and we think impossible—burden of proof on anyone who insists 1) that language is most efficiently taught if structure is taught separately from use (as implied by structural drills) or 2) that the organization of language material for the student should follow a scheme dictated by the comparative structures of the language to be learned and the language of the learner.

Let us consider the obvious fact that in just that case where the most successful language learning takes place—namely, in the child—the linguistic material displayed to the learner is not selected in the interest of presenting discrete grammatical skills in an orderly fashion. On the contrary, the child is exposed to an extensive variety and range of utterances selected for their situational appropriateness at the moment, rather than to illustrate a particular grammatical principle. The child proceeds in an incredibly short time to induce a grammar of the language far more complex than any yet formulated by any linguist. We must, therefore, assume that the child is somehow capable of making an enormous contribution of his own. [11]). We may call this contribution his *language learning capability*, by which we mean simply whatever it is that makes it possible for a child to observe a number of particular acts of speech in context and then to perform new acts of speech that will seem to the observer to imply that the child has formed general rules for producing intelligent, appropriate speech. It is still unknown what neurological mechanisms account for his linguistic accomplishment; but the fact that the child can produce new intelligent speech after

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[11]) Cf. N. Chomsky, *Aspects of the Theory of Syntax* (Cambridge, Mass., 1965), p. 25:

"Clearly, a child who has learned a language has developed an internal representation of a system of rules that determine how sentences are to be formed, used, and understood."

On the nature of the child's accomplishment vis-à-vis that of the linguist, cf. the following from H. E. Palmer, *The Principles of Language Study* (new edition: London, 1964), pp. 4–5:

"In English we have a tone-system so complicated that no one has so far discovered its laws, but little English children observe each nicety of tone with marvelous precision; a learned specialist in 'tonetics' (or whatever the science of tones will come to be called) may make an error, but the little child will not ..."

"When, therefore, we find that a person has become expert in a difficult and complex subject, the theory of which has not yet been worked out, not yet been discoverd, it is manifest that his expertness has been acquired otherwise than by study of the theory."

observing only particular language acts of varied linguistic structure in contextual wholes seems indisputable.[12]) This capability, among other things, accomplishes what it is assumed the course writer tries to accomplish for the adult learner: it organizes and stores a wealth of structurally diverse input language data in such a way as to be available for future language use in thinking, speaking, hearing, reading and writing.

Since any successful language learning program must ultimately teach the *use* of sentences, if the adult learner can, like the child, contribute a knowledge of the *form* of sentences from his knowledge of the form of previously learned sentences, a presentation of sentences organized in terms of the situation they share rather than the form they share would seem clearly the more efficient one.

In discussion of modern language teaching methodology, it has been argued that structural randomness in teaching materials makes language learning excessively difficult; a sufficient demonstration of the invalidity of this contention as a general principle for language teaching is the fact of the child's easy success in learning a language—whether it is his first or second one—from just such materials. Furthermore, in practice the design of teaching material to minimize *grammatical* randomness seems to maximize situational randomness. A set of successive items in a typical structural drill normally have in common *only* their grammatical properties—not their relatedness to a given situation. On the other hand, the successive utterances in a normal discourse, say in a dialogue or piece of connected text, rarely share the same grammatical structure, but nevertheless exhibit a highly structured situational or contextual cohesion. And the example of the child indicates that situational rather than grammatical cohesion is what is necessary and sufficient for language learning to take place.

We are saying that a chunk of language is most efficiently learned as a *unit* of form and use. This has an important implication on language pedagogy: structural drills, in which the student practices switching quickly from an utterance appropriate for one situation to another utterance appropriate for quite another situation, are ineffective in principle. They force the student to produce utterances whose use is made difficult to grasp, unless he has the rare skill (there may be a small number of learners who apparently can learn to use a lan-

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[12]) Cf. C. F. Hockett, "Linguistic Ontogeny," *A Course in Modern Linguistics* (New York, 1958), pp. 356–357.

guage from structural drill alone) of imagining a whole fresh situation for every utterance, while keeping up with the mechanical requirements of the exercise.

How can the evident success of the child's language learning method be realized for foreign language teaching to adults?[13]) The proponents of the various 'direct methods' have developed numerous techniques that attempt to do this; and linguists have done even better than the more physicalistic of the direct methodists, by utilizing the powerful tool of dialogue memorization, which at its best provides less limiting and more realistic contexts for learning than can be provided if the strictures (e.g., no translation, structurally limited lessons) of the more rigid of the direct methodists are adhered to.

The pedagogical implication of our position is that we abandon the notion of structural grading and structural ordering of exercise material in favor of situational ordering. That is, we need to devise no more structural drills like that illustrated in Appendix I. Through the materials we would propose instead (see Appendix II for an example of one kind), the student would learn situational variants rather than structural alternants independent of a contextual base. The principal motivation for providing contextual and psychological reality for dialogues in a believable manner is not, as is so often objected, to provide the learner with something to say for a particular, necessarily limited situation. Rather, it is to present instances of meaningful use of language which the learner himself stores, segments, and eventually recombines in synthesizing new utterances appropriate for use in new situations.[14])

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[13]) Arguments concerning language learning abilities in the adult on the analogy of those of the child are used explicitly—albeit inconsistently—in works like the ones cited in Note 1 above.

[14]) Our use of the terms segment, store, recombine, etc., should not be taken to mean that we have in mind some particular taxonomic or stimulus-response model of grammatical structure or language use. Modern grammatical theory makes it clear that such models could not in themselves be adequate representations of the nature of the language learning process. Cf. N. Chomsky, *op. cit.*, pp. 47–59, especially, p. 57; also T. G. Bever, J. A. Fodor and W. Weksel, "On the Acquisition of Syntax," *Psychological Review* LXXII (1965), pp. 467–482. What is important is our claim that, whatever the nature of this process, it is carried out by the learner rather than being performed vicariously for him by the teacher.

For further discussions of these topics, see the following: Leonard Newmark, Jerome Mintz and Jan Ann Lawson, *Using American English* (New York, 1964), Introduction, pp. 3–18, by Leonard Newmark; David A. Reibel, "The Contextually-Patterned Use of English: An Experiment in Dialogue Writing," *English Lan-*

In our language teaching research we need to pay more attention to improving and making more effective our presentations of language in use. For example, we need careful studies to tell us what dosage of conversational material will maximize the ratio of amount retained to amount of time spent in acquisition;[15]) we need to devise and employ exercises that will extend the applicability of material already learned to new situations—for instance, we may give students practice in substituting new items in previously learned dialogues, corresponding to slight changes they wish to introduce into the situation, as in Appendix II; and we need to learn to manipulate the relationship between model and observer in such a way as to increase the likelihood that the student will imitate the language behavior of his teacher.

SECTION II

Now, against the assertion that first language learning provides instructive insights for planning second language teaching programs, it is easy and usual to object that the adult is not a child and that the process of second language learning must therefore be different from that of first language learning (and then to construct teaching programs which will guarantee that the adult is *made to be* a different kind of learner from the child). It is denied that an adult can effectively be taught by grammatically unordered materials, which seem so sufficient for the child's learning (we repeat, the *only* learning process which we know for certain will produce mastery of the language at a native level).

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guage Teaching XIX (1964), pp. 62–71; Leonard Newmark, "How Not to Interfere with Language Learning," E.W. Najam, *op. cit.*, pp. 77–83.

[15]) For example, we know that it would be easy to learn a two-word dialogue very well in an hour—"Hello." "Hello."—but little would be gained for the hour's work; on the other hand, a great deal of language might be exposed in a forty-line dialogue, but the effort to memorize the dialogue would not be worth the gain, and little of it would be retained and reemployed by the student. How long should a dialogue be in order to gain maximal retention per unit of time spent in learning? Experience in language teaching suggests that a dialogue of perhaps four to six lines—two or three short utterances per participant—for each learning dose may be optimal. This length sharply contrasts with the length of dialogues in many 'linguistically oriented' textbooks.

Several serious arguments for treating the adult as a different kind of learner from the child have been advanced. We may take four to be representative:

> Argument 1) The child's brain is different from the adult's. The adult has lost the neurological ability to infer general linguistic laws from particular instances.[16])

While we recognize the psychological and neuro-pathological evidence for positing differences between child and adult brains, we cannot consider this evidence to be decisive on the question of whether the adult is capable of linguistic inference. Healthy adult brains do enable adults to make various other kinds of generalizations from particular instances—e.g., adults can gain the general skill of driving, and can use that skill in new instances, on unfamiliar roads, in a new car, etc. We are unaware of any empirical evidence for saying that it is exactly the ability to make new applications of linguistic material to new instances that is lost in adulthood.[17])

The difficulty with a statement such as Penfield's:

> "When new languages are taken up for the first time in the second decade of life, it is difficult, though not impossible, to achieve a good result. It is difficult because it is unphysiological."[18])

is that it seems to contain a self-contradiction: if it is "unphysiological" for an adult brain to learn a new language, how are we to account for the fact that it is possible at all? What could an "unphysiological" mechanism be that would explain language learning in adults? In fact,

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[16]) This is the implication, for example, of this statement by Karl Teeter in his review of E.C. Horne, *Beginning Javanese*, *Language* XXXIX (1963), p. 147; "First of all, it needs to be clearly recognized that adults learn languages differently from children. They have lost, at least in large part, the ability to make that remarkable induction that all children, independently of intelligence, make with such speed when they learn a language."

[17]) W. Penfield and L. Roberts, *Speech and Brain-Mechanisms* (Princeton, 1959)—see also Lenneberg's review in *Language* XXXVI (1960), pp. 97–112—offer physiological evidence for cortical specialization during childhood development, with resulting inability later in adult life to recreate lost speech mechanisms in new areas of the brain after trauma.

The fact that the speech mechanism must be developed in childhood if the individual is to speak at all does not *a priori* preclude the possibility that, once developed, it can be applied later in adult life to the learning of new languages. Cf. especially Penfield and Roberts, *op. cit.*, pp. 251–254, where they discuss the case of the bilingual child learning through the 'direct' or 'mother's' method, or the adult learning through the 'indirect' or 'secondary' method.

[18]) *Speech and Brain-Mechanisms*, p. 255.

many adult learners do learn new languages very well. What is usually taken as evidence against their ability to learn as a child learns is the fact that they speak the new language with an accent. But our point is that they do learn to speak it and that the amount of skill they often acquire far exceeds in amount and importance the amount of skill they seem not to acquire. The neurophysiological evidence may be used to argue that adults are quantitatively inferior to children as language learners: it cannot be used to argue that they are qualitatively different *kinds* of learners. We submit that the same language learning capability exists in both child and adult, quite possibly in different degrees, and that the extraordinary efficiency of the 'method'[19]) by which children learn can and should be taken advantage of in teaching adults.

Argument 2) The child has much more time to learn the language.[20])

This argument is difficult to evaluate, since we do not have reliable information about how much time the child actually does spend in learning a language. From casual observation, however, it does not appear that the young child spends as much time in language contact as would be required to explain the vast differences between the language-using abilities of native four-year-old children and those of college students after two years of language courses. The small child is busy with many things—including sleeping and solitary playing—other than language, and it is the rare mother who can bear to keep a one-way conversation going without long breaks during her periods of contact with the child.[21]) There is also some question whether the adult might not gain as much from his ability to focus his attention over a period of time as the child gains from longer, but less concentrated contact with the language.

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[19]) *Op. cit.*, p. 254.

[20]) Cf. William G. Moulton, *A Linguistic Guide to Language Learning* (Modern Language Association of America, 1966), p. 2.

[21]) Cf. the following observation of Otto Jespersen's: "Sweet ([*History of Language*] 19) says among other things that the conditions of learning vernacular sounds are so favourable because the child has nothing else to do at the time. On the contrary, one may say that the child has an enormous deal to do while it is learning language; it is at that time active beyond belief: in a short time it subdues wider tracts than it ever does later in a much longer time. The more wonderful is it that along with those tasks it finds strength to learn its mother-tongue and its many refinements and crooked turns." *Language, Its Nature, Development and Origin* (London, 1922), p. 141.

More important, there is a striking difference between the *kind* of linguistic proficiency children have immediately and that of classroom students (including those under the tutelage of a linguist), a difference that has nothing to do with the amount of time spent in contact: what the child knows of the language he can use (perhaps only in listening and comprehending, perhaps also in his own speech), while the classroom student's knowledge seems all too often to be unavailable for his own immediate use. To put it in other terms, the child is fluent in his language very early, increasing his fluency in direct proportion to his knowledge of the language, while the classroom student's 'knowledge' of the language may allow him to do everything with the language except use it.[22]) And notice that the classroom student does not need an inordinate amount of time to learn things he sees immediate use for; e. g., he quickly learns to say and respond to short greetings or to utter curses and dirty words in the new language, though from the linguistic analyst's point of view, these may be quite complex structurally. Psychological factors seem to be at least as crucial as structural ones in determining how much time is needed to learn utterances.

Argument 3) The child is much more strongly motivated to learn his first language than the adult is to learn a foreign language.

If we take 'motivation' here to imply something like 'need' or 'deprivation', it is not at all clear that the child does so poorly without language. In our culture, as in many others, a crying, inarticulate baby has his needs rather well taken care of: it is not until he develops language, as a matter of fact, that he seems to need what he can get only through language. And it is not clear that motivation in this sense has much to do with adult learning of languages: there are cases galore of immigrants whose very livelihood depends on their mastering a language which nevertheless largely eludes them, and not

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[22]) Cf. also the following from Jespersen, *op. cit.*, p. 142–143: "The child has another priceless advantage: he hears the language in all possible situations and under such conditions that language and situation ever correspond exactly with one another. Gesture and facial expression harmonize with the words uttered and keep the child to a right understanding. Here there is nothing unnatural, such as is often the case in a language-lesson in later years, when one talks about ice and snow in June or excessive heat in January. And what the child hears is just what immediately concerns and interests him, and again and again his own attempts at speech lead to the fulfillment of his dearest wishes, so that his command of language has great practical advantages for him."

a few cases of good language learners whose general reward will be no greater than one more A in a language course.

If on the other hand we take 'motivation' to mean something like 'effective reward', there is no theoretical, and little practical difficulty in constructing teaching programs for adults which are at least as efficient in their selective reinforcement as that which most native learners receive for their linguistic efforts. Indeed, any imputation of some general, motivational differences between first and second language learning will fail to account for the observable success of children becoming bilingual in learning a second language.

There is another equivocation often concealed in the use of the term motivation. Suppose we replace motivation with the expression 'wanting to'. Then saying that someone 'wants to' learn a language can be taken to mean either that he wants to be in possession of the skill, or that he 'wants to' do the things that will lead him to acquire it. Clearly the former should, but does not automatically, imply the latter. Thus we can explain the paradox of the person who says he 'wants to' be able to play the oboe, but never learns, because he doesn't like to practice.

In arguing for the relevance of motivation in accounting for observably different degrees of success in language learning, we seem to be led ultimately to the circularity—apparently inescapable outside of controlled laboratory conditions—of positing motivation in exactly those cases where successful learning has taken place and denying its presence in unsuccessful cases.

Argument 4) The child offers a *tabula rasa* for language learning. The adult's native language will interfere with his acquisition of a foreign language. [23])

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[23]) Cf. Robert L. Politzer, *Foreign Language Learning, A Linguistic Introduction* (Preliminary Edition) (Englewood Cliffs, N.J., 1965), p. 8:

"But the most essential difference between learning the native language and a foreign language lies in the simple fact that when you learn the foreign language you have already learned (consciously or subconsciously) a set of rules—namely the set that governs the system of the native language. If you learn a foreign language while you are still young, at an age at which the patterns and rules of your native language are still comparatively new to you, the interference that comes from the rules of the native language is likely to be small. But the older you become, the more practice you have had in speaking the native language, the more the rules and system of the native language are likely to interfere with learning the system of the foreign language. Once you are in your teens it is no longer possible to learn the foreign language in exactly the same way in which you learned your native lan-

No one can doubt the reality of the phenomena that are referred to by the term *interference*, but the metaphor implied by the term is unfortunate and misleading in discussions of language learning. It is true, indeed obvious by now, that learners will speak a foreign language with many errors which the observer can identify with characteristics in the learner's own language. But it seems to us that the pedagogical implications drawn by linguists have depended on an inadequate analysis of the term interference as applied to those phenomena.

The term 'interference' is appropriately used to describe a phenomenon observable in psychological experiments in which different sets of responses are to be learned to the same set of stimuli, or more generally, when one set of behaviors is supposed to *replace* another set. In that case (when the stimulus set is held constant) the previous learning of a certain set of responses may have a detrimental effect on the learning of a new set. The problem of interference in language study arises genuinely under conditions in which two different sets of responses are to be learned to the *same* set of stimuli, or more generally, in the same stimulus field. Such conditions are met in certain traditional translation-grammar procedures, but they are also met in courses devised by linguists in which the student's attention is called explicitly or implicitly to a contrast between the native and target language.[24]) What linguists (in common with traditional teachers) have typically *not* done consistently in planning language

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guage. The mere fact that you already have a native language that will interfere with the foreign language makes second language learning and first language learning quite different processes."

We would argue that if it were in fact true that "the mere fact that you already have a native language ... makes second language learning and first language learning quite different processes," then bilingualism would be impossible for the child as well as for the adult, something that runs contrary to the observation that children can acquire one or more second languages with comparative ease and little or no interference.

[24]) Cf. the following very cogent remarks by Roger L. Hadlich, "Lexical Contrastive Analysis," *Modern Language Journal* XLIX (1965), pp. 426–429:

"Thus, paradoxically, when pairs of words which are known traditionally and shown analytically to be a problem are placed in juxtaposition, explained, contrasted and drilled, students tend to continue confusing them; when they are presented as if no problem existed students have little or no difficulty" (p. 426).

"The point is that 'problem pairs' [such as Spanish *salir* and *dejar*] are nonnative. The relation between the members of each pair is extraneous to the language being studied and is thus an artificial and perhaps unnecessary constriction, imposed on the foreign language from without" (p. 427).

courses is to minimize the conditions that lead to interference by doing for the adult learner what is typically done for the child who is learning a second language: namely, using one language in a set of circumstances consistently distinguished from the set of circumstances in which the other language is used. The example of bilingual children who learn and use one language at home and another at school—without suffering enormous difficulties of interference—should induce language teaching planners to spend their ingenuity in devising language teaching situations that differ grossly from situations in which the native language is used, rather than devising means of calling students' attention to fine distinctions between the native and foreign language.[25])

But how can we understand the phenomenon of foreign accent without resorting to the notion of interference? Our account is something like this: A person knows how to speak o e language, say his native one. Now he tries to speak another one; but in his early stages of learning the new one, there are many things he has not yet learned to do; that is, he is grossly undertrained in the new one. But he is induced to perform ('perform' may mean understand, speak, read, or write) in that new one by an external teacher or by his internal desire to say something. What can he do other than use what he already knows to make up for what he does not know? To an observer who knows the target language, the learner will seem to be stubbornly

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"If we ignore all problem pairs and treat the words separately, in the terms of the foreign language, general lexical interference will be reduced and confusion avoided" (p. 429).

Applying these considerations in developing materials for teaching Spanish (*A Structural Course in Spanish*, New York, 1963), Hadlich and his colleagues D. L. Wolfe and J. C. Inman concluded:

"No effort was made, in the elaboration of the materials, to apply the contrastive analysis techniques on the vocabulary level ... Our students' control of the pairs was markedly better than that of the usual first year Spanish students. No confusions were made; the students we questioned were not aware of any problem; they were even surprised to find later that, in translating sentences containing these words, two different words in Spanish were represented by only one in English" (p. 426).

Equally important here as their informal finding is the clear formulation of the possible and actual effect of contrastive drill on the student's performance.

[25]) Cf. Penfield's observation (*Speech and Brain-Mechanisms*, p. 251–255) that no interference phenomena ("confusion" is his term) are noticable in the speech of multi-lingual children who have learned several languages by either the 'direct' or 'mother's' method, different languages being learned under different circumstances.

substituting the native habits for target habits. But from the learner's point of view, all he is doing is the best he can: to fill in his gaps of training he refers for help to what he already knows. The problem of 'interference' viewed thus reduces to the problem of ignorance, and the solution to the problem is simply more and better training in the target language, rather than systematic drill at the points of contrast between the two languages in order to combat interference.

The child is developing his intellect simultaneously with his language and can 'want to say' only what he is learning to say. The adult, on the other hand, can want to say what he does not yet know how to say, and he uses whatever means he has at his disposal. It is easy to see how the phenomenon of interference can result from his attempts to do more than he has yet learned to do in the new language. This seems to us sufficient explanation of how interference comes about, without the unnecessary hypostacization of competing linguistic systems, getting in each other's way or taking pot shots at one another.

There is much evidence to support our view. For example, if already learned habits exerted force against learning a new language (as implied by active metaphorical extension of the term 'interference') we would expect the strongest habits to exert the greatest force: specifically, if a person knows imperfectly another foreign language in addition to the one he is trying to learn, we should expect his second language to be unable to compete with the native one in interfering with the third one. But in fact, it is commonly observed that the two imperfectly learned languages may infect each other to a greater degree than the native language will infect either one.

Again, if learning a new language followed the psychological laboratory model of learning a new set of 'habits', we should expect interference in both directions: any reduction of interference (which in the view we oppose is held to be proportional to the increase in skill in the new language) should be accompanied by a weakening of the habits in the native language. But in fact we observe no direct, necessary ill effects on native habits as a result of increased learning of a second language.[26])

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[26]) There may be indirect ones. If as a person learns a second language he abandons the situations in which he speaks his native one, he may actually forget the latter. But such loss of native habits is like any other loss of skills which are not exercised: the proper learning of new skills—in contexts sharply set off from those appropriate for the old ones—does not interfere with the old ones.

Finally, if every individual point of difference between native and new language had to be taught to adults through carefully constructed drills devoted to that point, it would be as impossible to learn a new language as it would be to learn one's native language one bit at a time. The observable fact is that adults do learn new languages—acquiring new abilities that could never have been taught them by mere summation of the formal exercises to which they may have been exposed. And they do learn remarkably well—remarkably, if the doctrine of the mature 'frozen brain' were accepted. Linguists have been so eager to display their expertise in pointing to the minor ways in which foreign accent distorts performance in the new language that they have underestimated the enormous amount of mastery of language structure that the foreign speaker is exhibiting when he is using long utterances to say something. If the mistakes are to be scored against the learner's brain, then the successes must be scored for it; on balance, the adult must be appreciated to be a potentially magnificent learner of languages.

To sum up, a minimal viable theory of foreign language learning assumes a language learning capability qualitatively the same—though perhaps quantitatively different—in the adult and in the child. This capability enables the learner to acquire the general use of a foreign language by observation and exercise of particular instances of the language in use. Such observation and exercise is necessary, because without it, language cannot be learned as language; sufficient, because the learner can do the analysis for himself. The main control the teacher needs to exert over the materials to be studied is that they be graspable as usable items by the learner. The language learning capability of the student will gradually take care of the rest.

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APPENDIX I

(To review the use of ME, TO ME, FOR ME, etc.) Listen to the words and the statements. Include the words in the statements. For example:

Me	She talked about music. SHE TALKED ABOUT MUSIC TO ME.
Them	He asked some questions. HE ASKED THEM SOME QUESTIONS.
John	The teacher pronounced the word. THE TEACHER PRONOUNCED THE WORD FOR JOHN.

1. Us. He talked about Ann Arbor.
2. Me. He visited in Miami.
3. Them. They waited.
4. Me. He told a story.
5. John. She made a cake.
6. Her. He explained the program.
7. Him. I asked for a cigarette.
8. Mary. John pronounced the sentence.
9. Him. We bought a present.
10. Me. John did the work.
11. Bill. Mary introduced us.
12. Them. He got some pencils.
13. His mother. He wrote a letter.
14. The class. He is going to speak about language.
15. Her. He always says a kind thing. [27])

APPENDIX II

Prétextes

Galathée et son amie sont au restaurant universitaire et Galathée voit Hector qui la cherche. Elle est en colère contre lui, et ne veut pas lui parler.

1.

Galathée (à voix basse):	Fais semblant de ne pas voir.
L'amie (étonnée):	Pourquoi? Je ne vois personne.
Galathée (insistante):	Il y a Hector qui me cherche et je ne veux pas lui parler.
L'amie:	De toute façon je ne crois pas qu'il nous aperçoive.

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[27]) Robert Lado and Charles C. Fries, *English Sentence Patterns* (Ann Arbor, 1957), p. 94.

2. Même que 1.

Galathée (chuchotant):	Fais semblant de ne pas entendre.
L'amie (étonnée):	Pourquoi ? Je n'entends rien.
Galathée (avec urgence):	Il y a Hector qui m'appelle et je ne veux pas le voir.
L'amie:	De toute façon je crois qu'il nous aperçoit.

3. En classe. Galathée n'écoute pas et le professeur la regarde d'un mauvais oeil. Hector essaie de la rappeler à l'ordre.

Hector (sans en avoir l'air):	Fais semblant d'écouter.
Galathée (baillant):	Pourquoi ? Je suis trop fatiguée.
Hector (avec urgence):	Il y a le professeur qui te regarde et il voit bien que tu ne sais pas.
Galathée (indifférente):	De toute façon il ne croit pas que je sois très intelligente.

4. A la bibliothèque Hector et son copain voient Galathée qui vient dans leur direction. Le copain d'Hector ne peut pas sentir Galathée et veut l'éviter.

Le copain (avec urgence):	Vite, fais semblant d'étudier.
Hector (étonné):	Pourquoi ? C'est bien ce que je fais.
Le copain (avec insistance):	Il y a Galathée qui approche et je ne veux pas qu'elle vienne ici.
Hector:	De toute façon je ne crois pas qu'il y ait de place libre.

Pretexts

Galathea and her friend are at the cafeteria and Galathea sees Hector looking for her. She is mad at him and doesn't want to speak to him.

1.

Galathea: (in a low voice)	Pretend that you don't see anyone.
Friend: (surprised)	Why? I don't see anyone.
Galathea: (impatiently)	Hector's looking for me, and I don't want to talk to him.
Friend:	Well, anyway, I don't think he will notice us.

2. Same as 1.

Galathea: (whispers)	Pretend that you don't hear anything.
Friend: (surprised)	Why? I don't hear anything!
Galathea: (urgently)	Hector's calling me and I don't want to see him.
Friend:	In any case, I think that he's noticed us.

3. During class, Galathea is not listening and the teacher is glaring at her. Hector tries to get her to pay attention.

Hector: (out of the side of his mouth)	Hey, pretend to be listening.
Galathea: (yawning)	Why? I'm too tired.

Hector: (urging) The teacher is looking at you and he can see you are not paying attention.

Galathea: (indifferent) Well, anyway, he doesn't think I'm very intelligent.

4. At the library. Hector and his buddy see Galathea coming in their direction. Hector's buddy can't stand Galathea and wants to avoid her.

Buddy: (urgently) Quick, pretend that you're studying.

Hector: (surprised) Why? That's what I am doing.

Buddy: (insisting) Galathea is coming this way and I don't want to talk to her.

Hector: Well, anyway, I don't think there's any room.

After his performance of the dialogue-variants has become fluent and natural, the learner is encouraged to make new uses and new combinations of the language he has acquired, as in conversations like the following. The indirect cues mitigate the compulsion to translate from English into the foreign language. The learner supplies some of the language needed to perform the conversations from previously learned dialogues. Short conversations allow the situation to be comprehended quickly and without effort.[28])

Conversation 1

You are on the bus with a friend and spot Jules to whom you owe some money. Your friend is about to call over to Jules.

You ..... Tell your friend to pretend that he is looking out of the window.

He ..... Asks you why, he's about to call over to Jules.

You ..... Tell him that Jules is looking for you, that you owe him money.

He ..... Says O.k., but not to worry, Jules has probably not noticed you.

Conversation 2

You and your boy friend are at a night club, and you spot your ex-fiancé across the room.

You ..... Tell your boy friend to pretend to be talking to you.

He ..... Says that is exactly what he's doing.

You ..... Say that an old friend of yours is sitting across the room, and you don't want him to notice you.

He ..... Says not to worry, in any case it is too dark here to see anything.

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28) An explicit use of this device is also to be found in the exercises called "Conversation" in the old *Spoken Language Series* (ca. 1945) now published by Holt, Rinehart and Winston, Inc., New York. Cf. the following from Jeannette Dearden and Karin Stig-Nielsen, *Spoken Danish* (Book One) (New York, 1945), p.v.:

"The Conversation Practice represents the central aim of the course. Situations will be outlined which will give you the setting for your conversations. Here you will be able to use all the material that you have learned up to this point."

Editor's Note: Limitations of space have made it necessary for the Editor to shorten the original documentation considerably.